REMARKS

Claims 59-75 remain in this application. Claims 1-58 had been previously cancelled. No claims have been amended. No claims have been cancelled. Claims 59, 60, 61, 71, and 72 have been previously amended.

Applicants thank the Examiner for the detailed study of the application and prior art.

Applicants also thank the Examiner for the cordial telephone interview granted Applicants' attorney on November 16, 2004, in which U.S. Patent No. 5,445,347 to Ng was discussed. The Examiner noted Ng's use of data "snapshots."

Applicants note the rejection of claims 59, 62-70 and 75 as anticipated by U.S. Patent No. 5,351,194 to Ross et al. (hereinafter "Ross"); claims 60, 61, 71 and 72 as obvious over Ross in view of U.S. Patent No. 4,729,102 to Miller, Jr. et al. (hereinafter "Miller") and in view of U.S. Patent No. 5,943,399 to Bannister et al. (hereinafter "Bannister"); and claims 73 and 74 as unpatentable over Ross in view of U.S. Patent No. 5,463,656 to Polivka et al. (hereinafter "Polivka").

The Examiner has also entered a new rejection based on Ng and rejected claims 59, 62-70 and 75 as obvious over Ng in view of a dictionary definition for spread spectrum

entitled, "McGraw-Hill Illustrated Telecom Dictionary" by Jade Clayton, newly cited (hereinafter "Telecom Dictionary"). Claims 60, 61, 71 and 72 were rejected as obvious over Ng and the Telecom Dictionary in view of Bannister, and claims 73 and 74 as obvious over Ng in view of Polivka.

Applicants also file a Submission of Information under 37 CFR 1.565(a), to apprise the U.S. Patent and Trademark Office of any litigation activity, other prior or concurrent proceedings throughout the course of this reexamination proceeding. The two documents submitted with the Submission of Information are: (1) a Summons to Oral Proceeding and Provisional Opinion from the Board of Appeal for the European Patent Office; and (2) the Minutes of the Public Oral Proceedings of 20 July 2004 before the Board of Appeal at the European Patent Office. These two documents pertain to a European patent that is based on and claims priority from the same original patent application as does the instant patent under reexamination, and are submitted under a separate letter entitled Submission of Information.

As to the present application, Applicants request reconsideration in light of the following remarks:

Applicants disagree that some of those copied claims are not patentable to Applicants. Applicants contend that the

previously filed Amendment of February 4, 2003 placed patentable features previously claimed in dependent claims 60, 61, 71 and 72 into independent claim format, and that an interference should be initiated with Applicants as senior party because at least one claim is patentable. "If at least one of the presented claims is not rejectable on any such ground and is claiming the same invention as at least one claim of the patent, the examiner should proceed to propose an interference." MPEP 2307.02.

Claims 61 and 72 not only claim the cellular infrastructure, but also claim the use of the public-switched telephone network, which is not suggested by the combination of the three references used by the Examiner, i.e., Ross in view of Miller and Bannister. The public-switched telephone network was recited in dependent Claims 61 and 72, copied from the '990 patent, now in independent claim format.

Claims 60 and 71 not only claim the cellular infrastructure, but also claim the use of the internet, which is also not suggested by the combination of Ross in view of Miller and Bannister. The use of the internet was recited in dependent Claims 60 and 71, copied from the '990 patent, now placed in independent claim format.

At the outset, Applicants note that Ross is directed to overcoming prior art problems associated with using a public-switched telephone network for clearing a flight plan (IFR) after an aircraft reaches its destination. This is clearly noted in the Background of the Invention at column 2, starting at line 2, where Ross teaches that the prior art manner of using a land-line telephone was unacceptable. For example, it was necessary to cancel an IFR flight plan shortly after an estimated time-of-arrival. When this interval was exceeded, a search was begun. This unnecessary search could occur because it would take several minutes to taxi, secure the aircraft and passengers, and locate a telephone and use the public-switched telephone network to cancel the flight plan.

As a result, Ross is specifically directed to the sole use of the cellular system for transferring flight plan information. Ross teaches three aircraft switches that can be activated, such as during a crash or by landing at a destination airport when the wheels touch the ground. At that time, one of the switches activates the controller (10), which communicates through an interface to a cellular modem that accesses the cellular system and downloads any data to cancel a flight plan. In column 6, starting at line 37, Ross

specifically teaches the use of a cellular system that is advantageous over the public-switched telephone network described in the Background. Thus, Ross specifically teaches away from any use of a public-switched telephone network.

The Examiner uses Miller to conclude that the acquisition of data from an aircraft 14 uses a telecommunication network 22 and internet connection 30.

Applicants note that Miller is specifically directed to obtaining data from numerous resources into a large database to acquire from many different resources a vast amount of geographic data. It is clear that different data comes from different sources, such as an aircraft 14 or satellite 12. This data is received within a receiving facility 20 and transmitted through a transmission element, such as a wireless, fiber optic or cable element to an acquisition system 50 at a central location 40. Other data is received at the acquisition system 50 from the internet over an internet connection 32.

It is clear that the internet connection as shown in FIGS. 1 and 2 of Miller is not used for communicating data that is downloaded from an aircraft. Instead, the internet connection of Miller is used to obtain additional data that is combined with data downloaded from an aircraft for later

processing. The internet connection in Miller has nothing to do with transmitting data downloaded from the aircraft. Nowhere does Miller suggest the use of an internet operative with a cellular infrastructure for transmitting downloaded data from an aircraft to a flight processing center or other data receiver.

Indeed, the combination of Ross and Miller would suggest a system that downloads data from an aircraft into a cellular system and uses an internet connection to receive additional data from some other source besides the aircraft, such as a database located at some other system server, which is added to the downloaded data from the aircraft within the cellular system. Nowhere is there any suggestion of using the cellular system and internet for transmitting any downloaded data from an aircraft to a data reception unit.

As to Bannister, it is specifically directed to using a public-switched telephone network and internet connection for reducing the disadvantages for Short Messaging Services. A caller uses workstations that run software applications that interact with Short Messaging Subsystems. In Bannister, a caller determines the status of a particular terminal before attempting to communicate with that terminal, such as a mobile voice terminal, which includes a display for

displaying alpha-numeric information (a short message). A caller determines the status of the mobile voice terminal and uses a short message request icon. The workstation is used with the PSTN and internet to forward data for the Short Messaging Service.

Nowhere does Bannister suggest downloading flight data from an aircraft to a cellular infrastructure and through a public-switched telephone network that receives data from the cellular system. Indeed, Bannister teaches the opposite of transmitting data through a public-switched telephone network because, in Bannister, messages originate from a terminal at a residence or similar location that is directly connected to the public-switched telephone network. The internet connection can be used to obtain data, combined at the terminal and forwarded. In the present claimed invention, the aircraft lands and accesses the cellular infrastructure and forwards data through an internet and/or public-switched telephone network. This is the opposite of Bannister.

As to Polivka, it discloses a system architecture having a transceiver and communications channel that is modified to reduce the size of an aircraft antenna and allow video communications with an aircraft via a satellite communications link. An input video signal is compressed and

used to modulate a carrier signal, which is then spread. A wireless unit in Polivka aids in controlling satellite video. There is no teaching or suggestion in Polivka for the present invention that generates data pertaining to the aircraft, accumulates the data within the ground data link unit positioned within the aircraft and then while on he ground, transmitting the accumulated, generated aircraft from the ground data link unit over a wideband spread spectrum communications signal to a ground based spread spectrum receiver and demodulating to obtain the accumulated, generated aircraft data.

Applicants agree that Polivka discloses the use of spread spectrum signals, but only suggests the use of a spread spectrum signal in a system architecture that reduces the size of an aircraft antenna for video communications via the satellite communications link. At most, the combination of Ross and Polivka would suggest using a video or satellite link for flight plan information.

Applicants note the rejection of all claims over Ng and the Telecom Dictionary (in view of either Bannister or Polivka in some independent claims).

As was described during the telephone interview, Ng aims to increase the probability of detecting and preventing

any impending malfunctions and/or catastrophic breakdowns that could occur in different kinds of vehicles by taking preventive action before the malfunctions or catastrophes actually occur. To this end, inspections are performed in near real time in an automated wireless preventive maintenance monitoring system. Baseline data signatures are continuously compared with near real time data snapshots obtained from the vehicles while the vehicles are en route and passing proximate fixed relay stations repeatedly positioned along the path of travel. Imminent failures are displayed on a status monitor for evaluation and appropriate action.

There is nothing in Ng, either alone or in combination with any other cited art, which challenges the patentability of the claims. The structure and the mode of operation of the claimed invention differs significantly from the structure and the mode of operation of the system of Ng, and a significant number of elements of the claims are not present in Ng.

Ng describes an automated wireless preventive maintenance monitoring system for vehicles (a MAGLEV train is the vehicle described in the preferred embodiment) which aims at performing inspections in near real time in order to increase the probability that impending malfunctions of the

respective vehicle can be detected. The system of Ng is not concerned with acquiring the vehicle data during en route operation of the vehicle, nor is it concerned with storing the accumulated vehicle performance data for transmission subsequent to the en route operation of the vehicle.

Each vehicle and the engine is provided with a system monitor and diagnostic unit (SMDU). Network status interface units (NSIU) are provided alongside the track at stations and at other fixed locations through which the vehicles pass. While the train is in motion, the SMDUs continuously monitor the current operating condition of the engine and the vehicles. The NSIUs cause the SMDUs to transmit data signals representing a snapshot of the current operational status at the time the vehicle passes proximate thereto over a wireless spread spectrum time-division-multiple-access communications link. The NSIUs relay the data signals to a Maintenance Control Center (MCC).

In contrast, the claimed invention is a much different system and provides the capability for periodically accessing and analyzing aircraft data by means of a data acquisition unit, by which aircraft data is accumulated and stored such as during the flight of the aircraft, and is subsequently downloaded to data reception unit in

communication with the cellular infrastructure after the aircraft has landed. Performing inspections in near real time in an automated wireless preventive maintenance monitoring system has nothing in common with acquiring a comprehensive long-term picture derived from the totality of the aircraft data over the entirety of a flight in order to identify and remedy adverse trends. Ng lacks any pointer to radically modify the goal, structure and mode of operation of its system, which would be necessary to obtain the goal, structure, and mode of operation of the system/method defined in the amended claims.

Also, the Ng disclosure is specifically directed to the TDMA as discussed at the telephone interview in which each time slot is chosen to contain data regarding a particular engine or passenger car. A snapshot of data for the respective engine or passenger car is inserted within the specific time slot. The TDMA transmission forms a series of data snapshots that are transmitted in almost real time to be analyzed whether the MAGLEV train should be stopped immediately, operated a few more minutes and continue on to a maintenance facility, or continue to its destination.

Additionally as discussed in the telephone interview, Ng only takes data snapshots of the engine,

transmission, landing gear, braking system and fuselage when applied on an aircraft as set forth in column 6, line 46. As noted at the interview, when an aircraft pulls away from a terminal and taxis, this landing gear, fuselage, engine, braking system, and transmission data are periodically sent to a monitoring facility in near real time and updated. If any problems occur during taxiing, the plane could be sent back to the terminal. There is, thus, nothing in Ng to disclose or suggest any archiving, especially during the entire flight of an aircraft.

The Telecom Dictionary only states that TDMA is considered a type of spread spectrum. There are dictionary definitions, however, that define spread spectrum in a more detailed manner. Indeed, Newton's Telecom Dictionary states that there are two versions of spread spectrum, i.e., direct sequence and frequency hopping. Direct Sequence Spread Spectrum (DSSS) spreads the signal over a wide range of a (preferred) 2.4 GHz frequency band and Frequency Hopping Spread Spectrum (FHSS) involves transmission of short bursts of information over specific frequencies, with the frequency-hopping carefully coordinated between transmitter and receiver. Time division multiplex is separately defined in this dictionary. Enclosed are attachments from Newton's

Dictionary and the definitions for spread spectrum and time division multiplex. In any event, for moving large amounts of data, TDMA may not be as feasible.

Bannister and Polivka have been explained above and Applicants note that those references would not suggest the present claimed invention in combination with Ng. At most a combination of Ng, Telecom Dictionary, and Bannister would suggest taking snapshots of data while the aircraft is taxiing and transferring the data using a public-switched telephone network and internet connection with the possibility of applying short messaging services. As to Polivka, the combination of Ng and Polivka would suggest obtaining "snapshots" of data during taxiing that could be transferred via a satellite signal.

Applicants contend that amended Claims 60, 61, 71 and 72 as now submitted are patentable over the cited prior art. Because Claims 60, 61, 71 and 72 presented in this Amendment are copied claims from U.S. Patent No. 6,181,990, but placed in independent format, an interference should be initiated with Applicants as senior party with respect to all the claims.

Applicants contend that the present case is in condition for allowance and respectfully requests that the

In re Patent Application of:
WRIGHT ET AL.
Serial No. **09/976,647**
Filed: **10/11/01**

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Examiner issue a Notice of Allowance and Issue Fee Due. If the Examiner has any questions or suggestions for placing this case in condition for allowance, the undersigned attorney would appreciate a telephone call.

Respectfully submitted,

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Julie Lalan

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The Official Dictionary of Telecommunications
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Published by CMP Books
An Imprint of CMP Media Inc.
12 West 21 Street
New York, NY 10010

ISBN 1-57820-053-9

July, 2000

Sixteenth and a Half Edition, Expanded and Updated

For individual orders, and for information on special discounts for quantity orders, please contact:

CMP Books
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Tel: 800-LIBRARY or 408-848-3854
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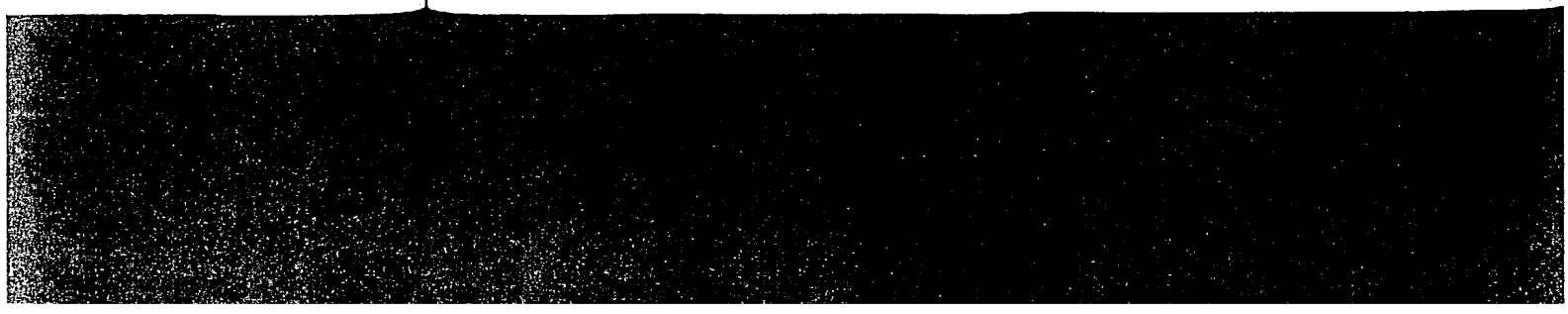
Distributed to the book trade in the U.S. and Canada by
Publishers Group West
1700 Fourth St., Berkeley, CA 94710

Manufactured in the United States of America

iterface and can designate the test point and oper-
sion of responsibility for the signaling.
eous Networking See Jini.
1. In COMSEC applications, the interception,
and retransmission of a cipher signal or data in
as to mislead the receiver.
ated-information-systems applications, an attempt
ess to an automated information system by posing
orized user. In electronic mail applications, spoof-
re one person impersonates another person in
in access to that person's electronic mail.
orking term: Spoofing is a method by which a
evice is spoofed, or fooled, into thinking that data
ransmitted in order that the device doesn't "time
ita session. For example, fax machines sending
' (Internet Protocol) networks must use spoofing in
ercome the inherent latency, or delay, associated
data traffic. When fax packets are delayed exces-
, more than several seconds), the receiving
ll assume either that the data session is conclud-
something awful happened to the connection.
oofing, the receiving device will "time out" the ses-
e fax won't ever be received in full or print out. See
nd T.38.
nultaneous Peripheral Operation On Line. A pro-
ce of hardware that controls a buffer of data going
utput device, including a printer or a screen. A
s several users to send data to a device such as a
ne same time, even when the printer is busy. The
ols the transmission of data to the device by using
creating a temporary file in which to store the data
busy device. See Spooler and Spooling.
program that controls spooling. Spooling, a term
ociated with printers, stands for Simultaneous
Operations On Line. Spooling temporarily stores
or program outputs on magnetic tape, RAM, or
utput or processing.
S Simultaneous Peripheral Operations On Line.
neans temporarily storing programs or program
magnetic tape, RAM or disks for output or pro-
e word "Spooling" is mostly associated with print-
an example: Pretend that a lot of people on your
Network all want to send their reports to the print-
stead of each person having control of the printer
ishing it only when they're through, each user tells
ooler what file they want printed. The program,
pooler, places the print request in the print queue.
request reaches the top of the queue, your report
ut. Using a PC as print spooler slows it down. Best
t for much else.
m Antenna A satellite antenna capable of illu-
focusing on a narrow portion of the earth's sur-

ne See Dedicated Inside Plant.
perating system for digital signal processors from
licrosystems, Goleta, CA, now owned by Dialogic
ny, NJ. Spox is a real-time, multitasking operating
is optimized for use with fixed and floating point
al processors in both single- and multiprocessor
ne SPOX environment is implemented as a library
le, C-callable modules.
quenced Packet Protocol. XNS (Xerox Network
otocol governing sequenced data.
ocessing Platform.

SPRE Special PREfix code. Special digits dialed in order to access features of a telephone system, like a PBX or a Centrex. For example, in order to invoke the Call Pickup feature, a PBX user might pick up the handset, dial a three-digit SPRE code specific to the PBX, and answer the call.
Spread Spectrum Also called frequency hopping, spread spectrum is a modulation technique used in wireless systems. The data to be transmitted are packetized, and spread over a wider range of bandwidth than demanded by the content of the original information stream. Spread spectrum takes an input signal, mixes it with FM noise and "spreads" the signal over a broad frequency range. Spread spectrum receivers recognize a spread signal, acquire and "de-spread" it and thus return it to its initial form (the original message). A large number of transmissions can be supported over a given range of frequencies, with each transmission comprising a packet stream and with each packet in a stream being distinguished by an ID contained within the packet header. The receiver is able to distinguish each packet stream from all others by virtue of that ID, even though multiple transmissions share the same frequencies at the same time, with the potential for the overlapping of packets. Spread spectrum is highly secure. Would-be eavesdroppers hear only unintelligible blips. Attempts to jam the signal succeed only at knocking out a few small bits of it. So effective is the concept that it is now the principal antijamming device in the U.S. Government's Milstar defense communications satellite system. Spread spectrum technology also is used extensively in wireless LANs and in CDMA (Code Division Multiple Access), the access technique used in many PCS (Personal Communications Systems) cellular systems.
There are two versions of spread spectrum. Direct Sequency Spread Spectrum (DSSS) spreads the signal over a wide range of the 2.4 GHz frequency band. Frquency Hopping Spread Spectrum (FHSS) involves the transmission of short bursts of information over specific frequencies, with the frequency-hopping carefully coordinated between transmitter and receiver. See also CDMA, DSSS and FHSS.
Hedy Lamarr, the actress, created the concept of spread spectrum in 1940 and, two years later, received a U.S. patent for a "secret communication system." The patent was issued to her and George Antheil, a film-score composer, to whom Ms. Lamarr had turned for help in perfecting her idea. Spread spectrum was used extensively by the Allies during the World War II in the Pacific Theater, where it solved the problem of Japanese jamming of radio-controlled torpedoes. World War II electronics were pretty primitive, and Hedy's system used a mechanical switching system, like a piano roll, to shift frequencies faster than the Nazis or the Japanese could follow them. More recently, spread-spectrum has been combined with digital technology, for spy-proof and noise-resistant battlefield communications. In 1962, Sylvania installed it on ships sent to blockade Cuba. Ms. Lamarr never received one penny for her invention. Ms. Lamarr was quite an innovator. She delighted and shocked audiences in the 1930s by dancing in the nude in the movie "Ecstacy."
Spreading Loss See Free Space Loss.
Sprint The third largest IXC, behind AT&T and MCI; also a LEC of significance. Sprint began as a venture of Southern Pacific Railroad, which had the clever idea of using its right-of-way to lay a fiber optic cable network. Subsequently, Southern Pacific sold the network to GTE, at which point it became know as GTE Sprint. The company became known as US Sprint when GTE and United Telecom decided to form a (50/50) joint venture from US Telecom (United's long distance company); GTE Sprint and GTE Telnet. United Telecom bought GTE's interest, acquiring the final 19.9% in 1992. Now it's just called Sprint Corporation. From its very beginning, and under its various names, Sprint boasted a fully digital fiber optic network — the first. Through its acquisition in 1993 of Centel, Sprint currently operates as a LEC (local exchange carrier) in 19 states. In 1999, Worldcom (which used to be called MCI Worldcom) make a takeover bid for Sprint, which was accepted. As I write this in the middle of the year 2000, some regulatory problems were holding up the merger.
Sprite As used in computer graphics refers to a graphic image that can move over a background and other graphic objects in a non-destructive manner.
SPS 1. Signaling Protocols and Switching.
2. Standard Positioning Service. The normal civilian positioning accuracy obtained by using the single frequency C/A code in the GPS (Global Positioning System) system.
3. Solution Provider, also called Microsoft Solution Provider. See Microsoft Solution Provider.
SPTS Single Program Transport Stream: An MPEG-2 Transport Stream that consists of only one program.
Spud A special long-handled shovel used to loosen soil in a hole into which you're going to put a telephone pole.
Spudger Shaped like a dental pick, it's a gadget phone technicians use to find their way through a multi-paired telephone cable in their hunt for one single pair.
Spurious A term used in voice recognition. A spurious error is said to occur when a sound that is not a valid spoken input is incorrectly accepted as an input speech utterance.
Spurious Emission Emission on a frequency or frequencies which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products, but exclude out-of-band emissions.
Spurs 1. The sharp metal devices on the climbers used by telephone line-persons (people who climb telephone poles). Such climbing spurs make a mess of telephone poles.
2. The cowboy devices awarded by US WEST to privileged persons who have done US WEST some nice favor or are otherwise deserving of honor.
Sputnik Sputnik was the world's first artificial satellite. It was launched by the Russians on October 4, 1957. It freaked out the Americans and started the space race, which the Americans later won.
SPVC Soft Virtual Circuit. Or Smart Virtual Circuit.
SPX Sequenced Packet eXchange. 1. An enhanced set of commands implemented on top of IPX to create a true transport layer interface. SPX provides more functions than IPX, including guaranteed packet delivery. 2. Novell's implementation of SPP for its NetWare local area network operating system.
SQE Signal Quality Error. The 802.3 specification defines this for signals from the MAU to the NIC. Also referred to as heartbeat, is a signal sent by transceivers after a frame is transmitted in order to verify the connection, and is also used by the transceiver to notify the station that a collision was detected. The SQE is primarily used in 10Base-5 environments as a test signal to reassure the station that the transceiver is still operating properly. Some older network devices will not operate properly unless SQE is enabled; almost all new devices do not require SQE. SQE should always be disabled when a transceiver is connected to a repeater (including a 10BASE-T hub), or if it is not required.
SQL Structured Query Language. Invented by IBM and first



Time Assignment Speech Interpolation TASI. A voice telephone technique whereby the actual presence of a speech signal activates circuit use. The result is clipping of the first bit of the speech, but more efficient use of the transmission facility. TASI is used on expensive circuits, such as long submarine cables. See TASI.

Time Congestion The time resources (outgoing trunks) are busy.

Time Difference of Arrival TDOA. A class of Position Determination Technology in which a mobile radio unit's position is calculated based on the reception time of its transmitted signal measured at three or more receiving sites. The distance from transmitter to receiver equals the propagation delay times the speed of light. However, the absolute propagation time is rarely known, leading to the use of time differences at the receiving sites. Employed in certain wireless E-911 solutions. See also E-911 and Angle of Arrival.

Time Divert To Attendant A system feature which automatically transfers a phone to the attendant if the phone has been left off-hook too long.

Time Diversity A method of transmission wherein a signal representing the same information is sent over the same channel at different times. Often used over systems subject to burst error conditions and with the spacing adjusted to be longer than an error burst.

Time Division Controller TDC. A device which commands functions, monitors status and connects channels of TDM cards.

Time Division Multiple Access TDMA. A technique originated in satellite communications to interweave multiple conversations into one transponder so as to appear to get simultaneous conversations. A variation on TASI. A technique now used in cellular and other wireless communications. See TDMA.

Time Division Multiplex TDM. A technique for transmitting a number of separate data, voice and/or video signals simultaneously over one communications medium by quickly interleaving a piece of each signal one after another. Here's our problem. We have to transport the freight of five manufacturers from Chicago to New York. Each manufacturer's freight will fit into 20 rail boxcars. We have three basic solutions. First, build five separate railway lines from Chicago to New York. Second, rent five engines and schlepp five complete trains to New York on one railway track. Or, third, join all the boxcars together into one train of 100 boxcars and run them on one track. The train might look like this: Engine, Boxcar from Producer A, Box Car from Producer B, Producer C, Producer D, Producer E, and then the order begins again...Boxcar from Producer A, Producer B...Moving one large train of 100 boxcars is likely to be cheaper and more efficient than moving five smaller trains each of 20 boxcars on five separate railway tracks. Time Division Multiplexing, thus, represents substantial savings over have five separate networks (five separate tracks) and sending five separate transmissions (five separate trains).

This is what Time Division Multiplexing is all about. And the analogy is perfect. Take one large train (fast communications channel) and interleave pieces (boxcars) from each conversation one after another. If you do this fast enough, you'll never notice you've broken the conversations apart, moved them separately, and then put them back together at the distant end. In TDM, you "sample" each voice conversation, interleave the samples, send them on their way, then reconstruct the several conversations at the other end. There are several ways to do the sampling. You can sample eight bits (one byte) of each conversation, or you can sample one bit. The former is called word interleaving; the latter bit interleaving. The basic goal of multiplexing — whether it be time division multiplexing, or any other form — is to save money, to cram more conversations (voice, data, video or facsimile) onto fewer phone lines. To substitute electronics for copper. See also the following three definitions.

Time Division Multiplexer TDM. A device which derives multiple channels on a single transmission facility by connecting bit streams one at a time at regular intervals. It interleaves bits or characters from each terminal or device using the time. See Time Division Multiplex.

Time Division Signaling Signaling over a time division multiplex system in which all voice channels share a common signaling channel, with time division providing the separation between signaling channels. See Signaling System 7.

Time Division Switching The connection of two circuits in a network by assigning them to the same time slot on a common time division switched bus.

Time Domain Reflectometer TDR. A device that measures network cable characteristics such as distance, impedance, levels of RFI/EMI, connector and terminator problems, and the presence of opens and shorts. It uses radar-like principles to determine the location of metallic circuit faults.

Time Guard Band A time interval left vacant on a channel to provide a margin of safety against interference in the time domain between sequential operations, such as detection, integration, differentiation, transmission, encoding, decoding, or switching.

Time Jitters Short-term variation or instability in the duration of a specified interval.

Time Marker A reference signal, often repeated periodically, enabling the correlation of specific events with a time scale. markers are used in some systems for establishing synchronization.

Time Multiplexed Switch The space switch of which the cross point settings are changed in each time slot.

Time Of Day Display The time and date displays on phones. Actually, it's very useful information. Sometimes it's not displayed on the operator's console. As a result, the operator may never know that every phone in the office is showing the wrong time and date.

Time Of Day Routing 1. This feature automatically changes access to certain types of lines at times when the lines change from being expensive to cheap, or vice versa. For example, it's cheaper to use WATS lines before 8:00 AM in the morning. A company has offices in New York and Los Angeles. It might be cheaper to route calls to Chicago in the morning over the tie lines to LA and then out the LA WATS lines to Chicago, than to go directly out the New York WATS lines. This is a way to allocate bandwidth for LAN traffic over corporate T-1 Networks. By programming T-1 multiplexers, customers can allocate the amount of T-1 bandwidth that can be used by voice, data, and LAN traffic on a time of day basis. For example, during the day, most of the T-1 bandwidth can be allocated for voice. At night, after employees go home, more bandwidth can be allocated to LAN and other computer data traffic so that file transfers can be done faster. This is particularly useful in IBM mainframe environments where large amounts of data needs to be transferred form remote offices/divisions to the headquarters.

Time Out In telecommunications and computer networks, an event which occurs at the end of a predetermined interval of time is called Time Out. For example if you lift the phone